

**The Chinese University of Hong Kong
Faculty of Science
Science Academy for Young Talent**

Summer Courses 2017
Course Outline

CUSA1009 Unravelling the Mysteries of Nanotechnology
揭開神秘的納米科技

Introduction:

Nanotechnology is an emerging technology with a significant impact on daily life. Students could acquire the knowledge on the concept of Nanotechnology, basic theories of Nanotechnology and Application of Nanotechnology in Biology, Chemistry, Medical Science and Physics through lectures and experiments. This course is particularly suitable for students who are interested in nanotechnology research.

納米科技不但是一種新興的技術，而且對我們日常生活帶來深遠的影響。透過講課及實驗，學生可以認識納米科技的概念及基本理倫，也能瞭解納米科技在生物、化學、醫學科學及物理等方面的應用。本課程尤其適合對納米科技有興趣的學生；課程更可讓學生透過實驗課則培養實驗操作能力。

Medium of Instruction: Mandarin supplemented with English

Organising Unit:

National Taiwan University, Taiwan
Faculty of Science, The Chinese University of Hong Kong
Ubiquity vision Co., Ltd.

Teacher:

Professor CHEN Yang Fang
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Senior Lecturer of Science,
The North Region K-12 Education Center for Nanotechnology, Taiwan

Course Content:

1 August 2017 (Tuesday)	<u>Lecture</u> <ul style="list-style-type: none">• Design and investigation of semiconductor nanocomposite• Introduction Nanotechnology• Fullerenes• Photonic crystal in Nature <u>講課</u> <ul style="list-style-type: none">• 半導體復合材料之設計與研製• 納米科技概論• 巴克球體• 光子晶體
2 August 2017 (Wednesday)	<u>Lecture</u> <ul style="list-style-type: none">• Lotus effect• Superhydrophilic• Color change on nanoparticle• DNA Self-assembly <u>講課</u> <ul style="list-style-type: none">• 蓮葉效應• 親親水上漂• 納米變色顆粒• DNA自我組裝
3 August 2017 (Thursday)	<u>Lecture</u> <ul style="list-style-type: none">• Gecko Effect• Nano Carbon Particle• Magnetic nanofluids• Analysis and Application of semiconductor nanocomposite• Assessment <u>講課</u> <ul style="list-style-type: none">• 壁虎效應• 納米碳顆粒• 納米鐵磁流體• 半導體復合材料之分析與應用• 評估
4 August 2017* (Friday)	Make up class

Duration	3 whole day sessions (total 20 contact hours)
Date	1 – 3 August 2017 4 August 2017 (make up class)
Time	1 August 2017: 9:00 am – 12:30 pm; 2:00 pm – 5:10 pm 2 August 2017: 9:20 am – 12:30 pm; 2:00 pm – 5:10 pm 3 August 2017: 9:20 am – 12:30 pm; 2:00 pm – 5:30 pm 4 August 2017*: 9:20 am – 12:30 pm; 2:00 pm – 5:30 pm (make up class)
Venue	The Chinese University of Hong Kong
Enrollment	25
Expected applicants	S2 – S4 students
Tuition Fee	HKD 2,900.00 (including materials for experiments)
Credit	1.5 Academy Unit Certificates or letters of completion will be awarded to students upon completion.

* This date is reserved for make up classes in case there is any cancellation of classes due to bad weather or other factors.